

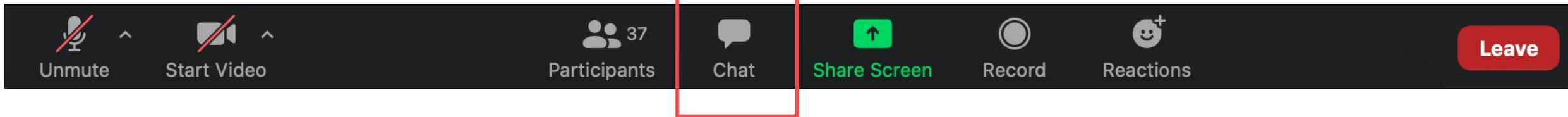
POLICY OPEN HOUSE

Reducing carbon emissions from existing large buildings



Mayor Martin J. Walsh

- Presentation followed by breakout discussions and comments.
- During the presentation, all microphones will be muted.
- If you are experiencing technical issues or have a clarifying question about something in the presentation, please let us know using the chat function.



- Once the presentation is over, we will go into breakout “Zoom Rooms”. You will be able to unmute and share your video. A staff member will be present to help facilitate.

We are going to be recording this meeting. The recording will include the presentation, any Q&A received during the meeting, and the report-outs from the breakouts at the end.

We are not recording the breakout sessions.

If you do not wish to be recorded during the meeting, please turn off your microphone and camera.

MEETING AGENDA



- **6:00-6:10**
 - *Welcome*
 - *Team introductions*
- **6:10-6:50**
 - *Group presentation*
 - *Questions & answers*
- **6:50-7:15**
 - *Breakout discussions*
- **7:15-7:30**
 - *Report-outs*
 - *Next steps*

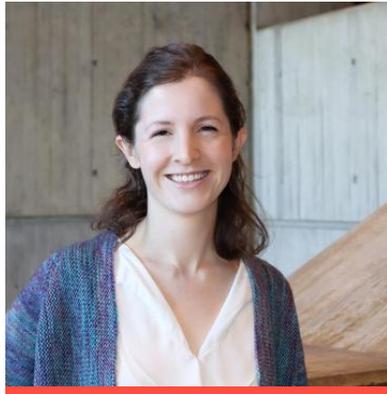




CHRISTOPHER COOK

Chief, Environment, Energy, and Open Space

SPEAKERS AT TODAY'S OPEN HOUSE



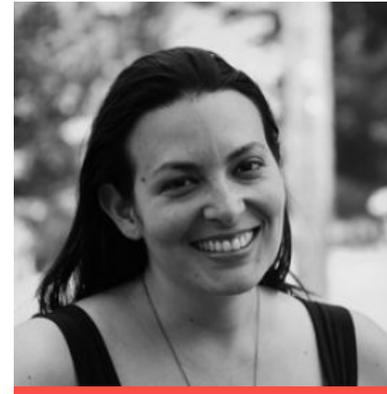
KAT ESHEL

*Carbon Neutrality
Program Manager*



ALISON BRIZIUS

*Director of Climate
and Environmental
Planning*



ANDREA ATKINSON

*Executive Director,
One Square World*



PHILIP EASH GATES

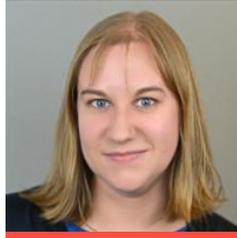
*Senior Associate, Synapse
Energy Economics*

BREAKOUT FACILITATORS



BEN SILVERMAN

*Climate and Buildings
Program Manager*



BRENDA PIKE

Climate Advisor



EMILY DESROCHERS

*Climate and Buildings
Fellow*



LAURA KIM

*Carbon-Neutral
Buildings Fellow*



PEYTON SILER JONES

*Climate Resilience
Program Coordinator*



ZOE DAVIS

*Climate Resilience
Project Coordinator*



**CHRISTOPHER
KRAMER**

Energy Manager



AIDAN SMITH

*CCE Outreach
Coordinator*



KATHLEEN HART

*Greenovate Boston
Communications Mgr*



B

PRESENTATION

- **Our climate goals and the 2019 Climate Action Plan**
 - *Why we're talking about carbon emissions from large buildings*
- **Defining a building performance standard**
- **Policy development process and timeline**
- **Goal of today's discussions**



THE BOSTON HARBOR WITH 40" OF SEA LEVEL RISE IN A 1% ANNUAL CHANCE STORM EVENT (2070'S)



DORCHESTER

SOUTH BOSTON

DOWNTOWN

EAST BOSTON

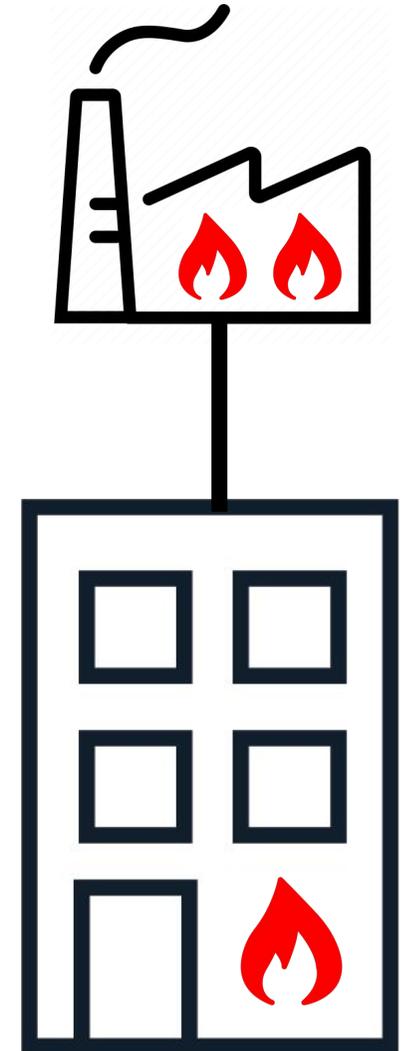
-  = FLOOD ADAPTED BUILDINGS
-  = ELEVATED LANDSCAPES
-  = CONNECTIONS AND ACCESS

HOW DOES BOSTON CONTRIBUTE TO CLIMATE CHANGE?

The greenhouse effect



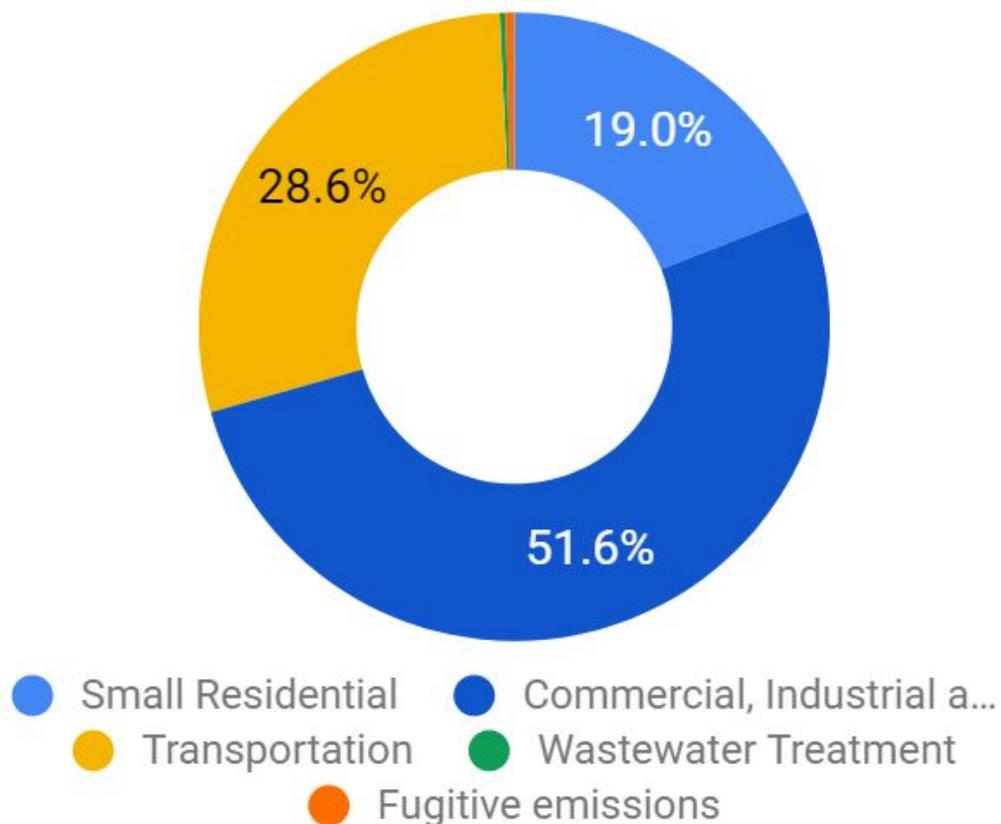
- Our atmosphere is like a greenhouse. Certain gases in our atmosphere, like carbon dioxide, trap heat from the sun and make our planet livable.
- Human activities that rely on fossil fuels release more of these greenhouse gases.
 - *We burn fossil fuels (oil, gas, coal) in power plants to generate electricity, in boilers and furnaces to create heat and hot water, and in cars to get around.*
- A stronger greenhouse effect caused by human activities is changing our climate.



WHAT IS BOSTON'S CARBON FOOTPRINT?



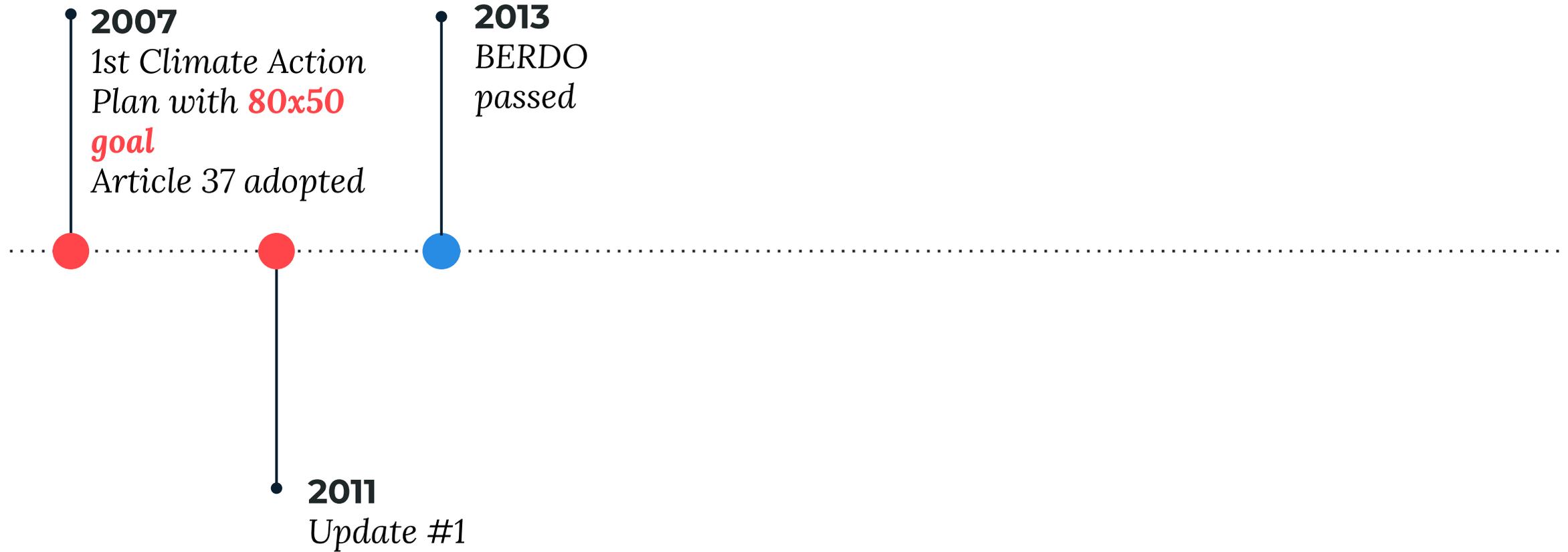
GHG Emissions by Source, 2017



In 2005, Boston released nearly 8 million tons of carbon.

In 2017, 70 percent of our carbon emissions came from buildings. Transportation accounted for 29 percent of emissions.

CLIMATE ACTION IN BOSTON



Building Energy Reporting and Disclosure Ordinance (BERDO)

1. Covers the largest 2,200 buildings in Boston. Represents approximately $\frac{1}{3}$ of the built area and nearly $\frac{1}{2}$ of annual greenhouse gas emissions.
2. BERDO buildings are required to report their annual energy and water usage to the City each year. The City then discloses that data.
3. After five years of being covered under BERDO, buildings must show that they have reduced their energy usage, are certified as a highly efficient building, or have performed an energy audit.

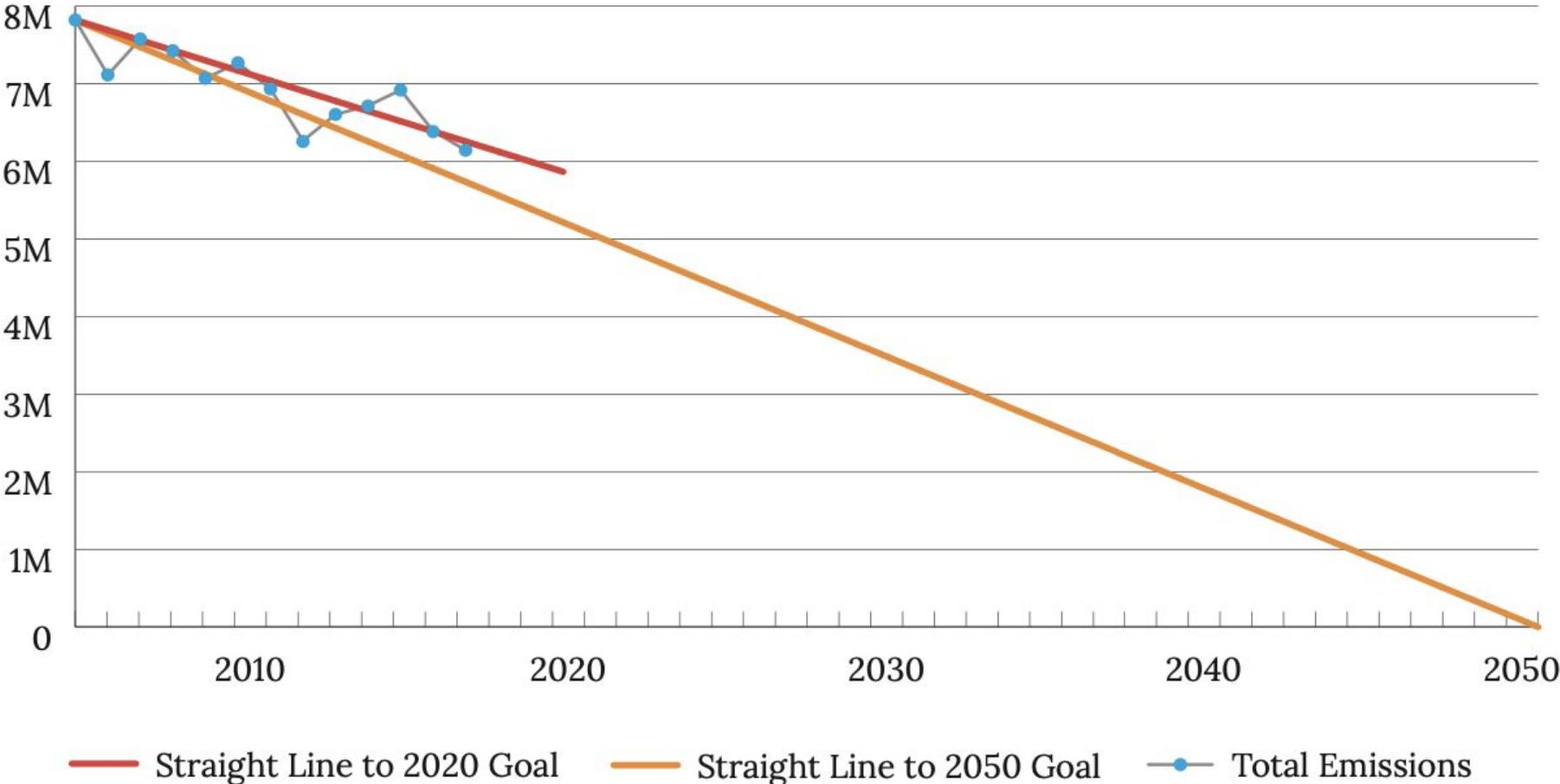
There are also statewide programs to support energy efficiency, including Mass Save.

BOSTON'S CARBON FOOTPRINT IS DECREASING

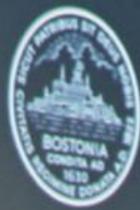
But we are not on track to meet our 2050 target



Boston Community Carbon Emissions, 2005-2017, and Progress Towards Goals (in metric tons)



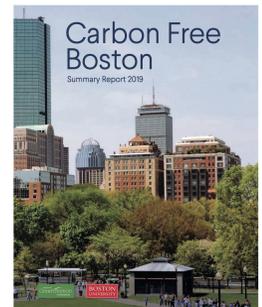
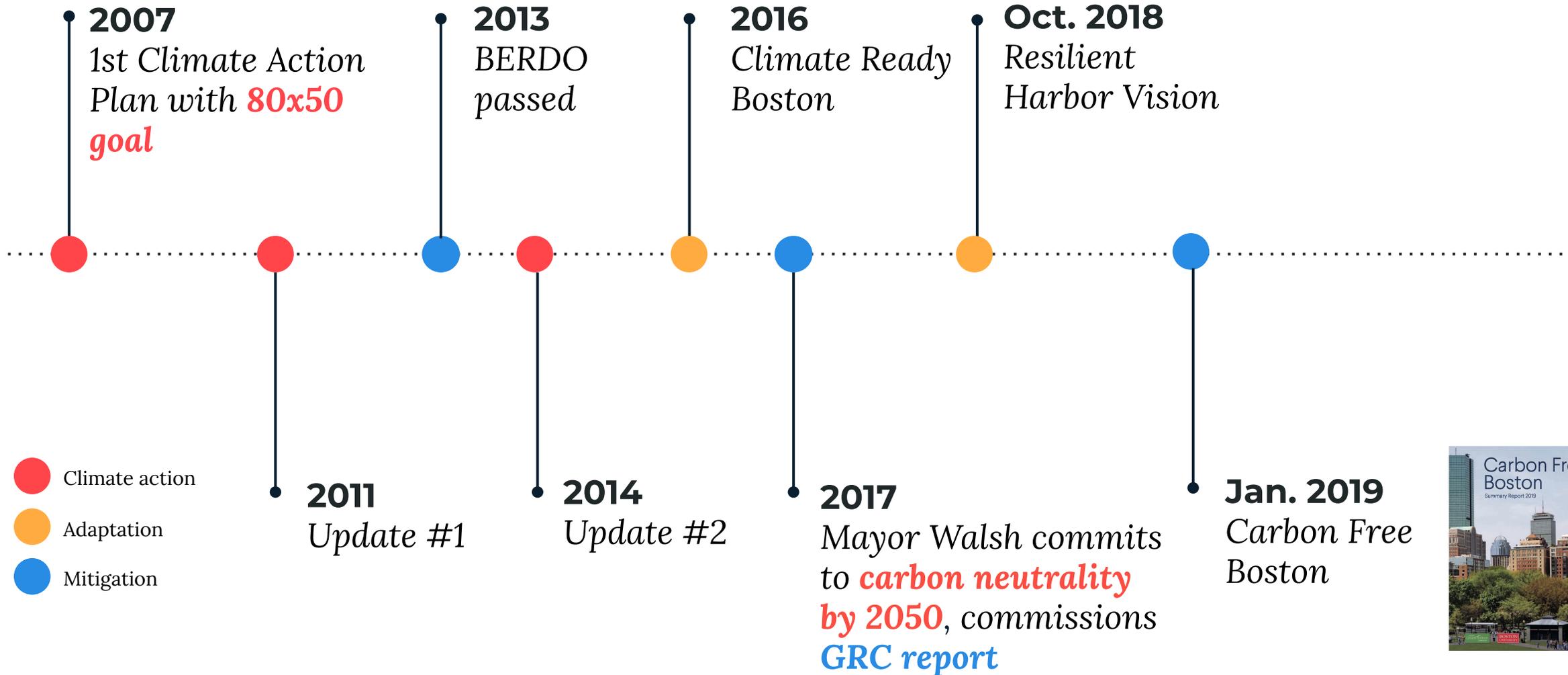
BUILDING A RESILIENT & CARBON NEUTRAL CITY.



City of Boston
Mayor Martin J. Walsh



CLIMATE ACTION IN BOSTON



WHAT DOES IT TAKE TO GET TO CARBON NEUTRALITY?



Boston needs to pursue 3 strategies **simultaneously**:



Reduce demand for energy by increasing **efficiency**;



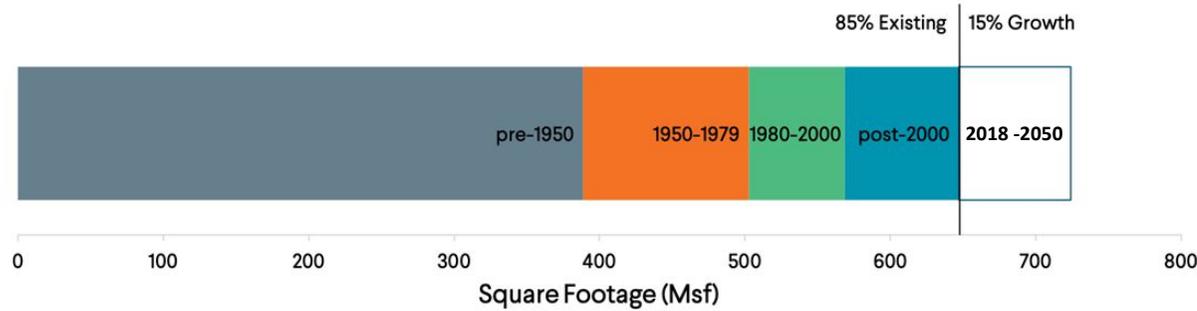
Convert nearly everything that runs on fossil fuels to run on **electricity**;



Buy **100% clean energy**

Carbon neutrality can be achieved with the technologies of today and is essential to a healthy, thriving and resilient Boston.

Boston's building stock is old.



- ½ of existing floor space was built before 1950.
- 85% of floor space that will exist in 2050 has already been built.

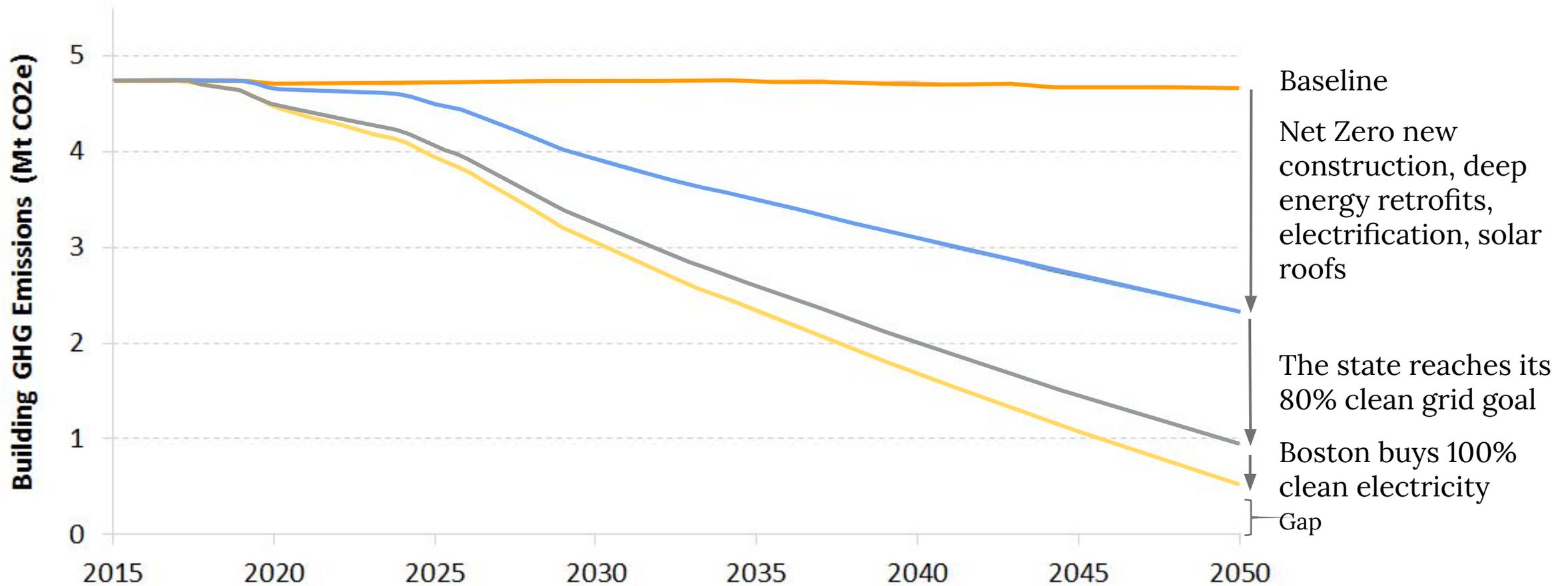


BUILDING SECTOR ANALYSIS

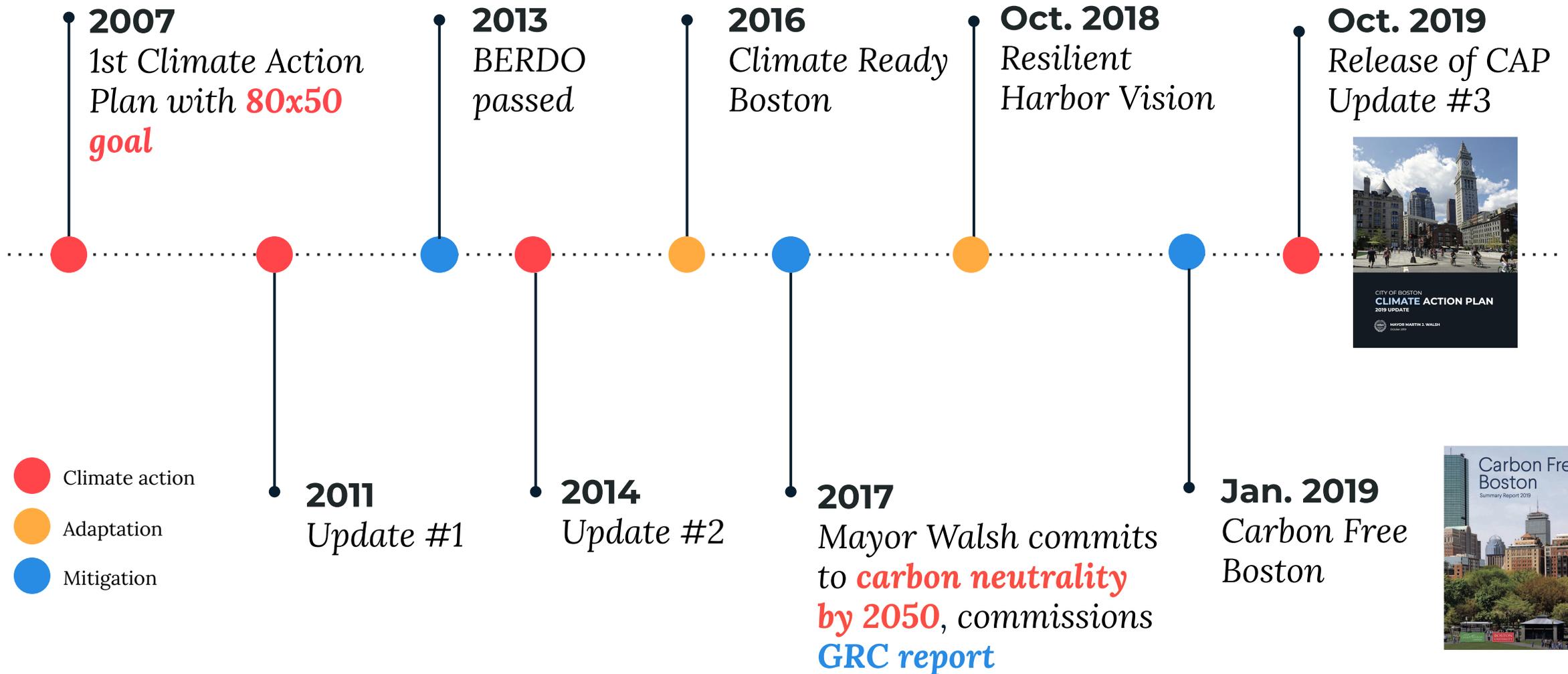
Decarbonization pathway



Potential path to 2050:



CLIMATE ACTION IN BOSTON





1 | CONSTRUCT NEW MUNICIPAL BUILDINGS TO A ZERO NET CARBON STANDARD

2 | ADOPT A ZERO NET CARBON STANDARD FOR CITY-FUNDED AFFORDABLE HOUSING IN BOSTON

3 | STRENGTHEN GREEN BUILDING ZONING REQUIREMENTS TO A ZERO NET CARBON STANDARD

4 | INVEST IN ENERGY EFFICIENCY AND RENEWABLE ENERGY GENERATION IN MUNICIPAL BUILDINGS

5 | **DEVELOP A CARBON EMISSIONS PERFORMANCE STANDARD TO DECARBONIZE EXISTING LARGE BUILDINGS**

6 | EXPAND WORKFORCE DEVELOPMENT PROGRAMS FOR BUILDING DECARBONIZATION

7 | ADVOCATE FOR STATE BUILDING POLICIES THAT ALIGN WITH CARBON NEUTRALITY BY 2050

STRATEGY COMPONENTS

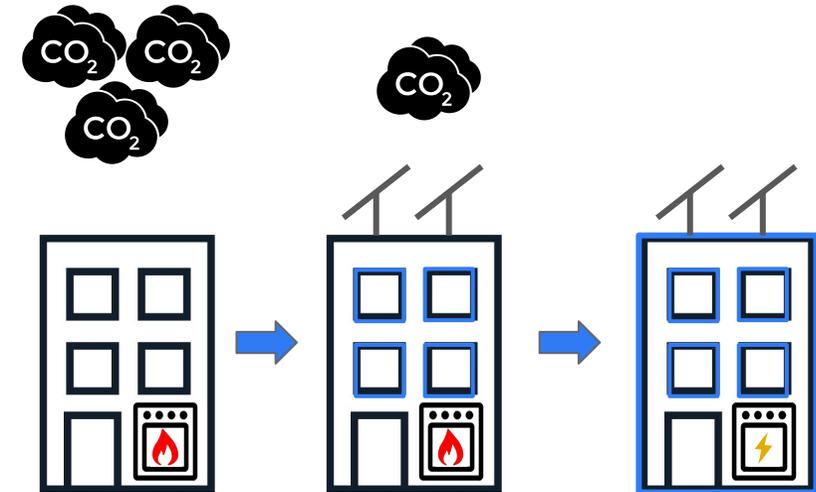
- **Develop a building emissions performance standard**
- Expand financing mechanisms for retrofits, such as a local climate bank
- Develop guidance for combined deep energy retrofits and electrification, including for historic buildings
- Pilot deep energy retrofits with thermal electrification in different building types
- Study mechanisms to decarbonize smaller existing buildings

A building performance standard sets carbon targets for existing large buildings that decrease over time.

WHY A BUILDING PERFORMANCE STANDARD?



- Directly targets our largest source of emissions
 - *Remember: the 2,200 buildings covered under BERDO account for nearly ½ of our total emissions.*
- Long planning horizons
- Flexibility in how buildings meet targets and when they make investments

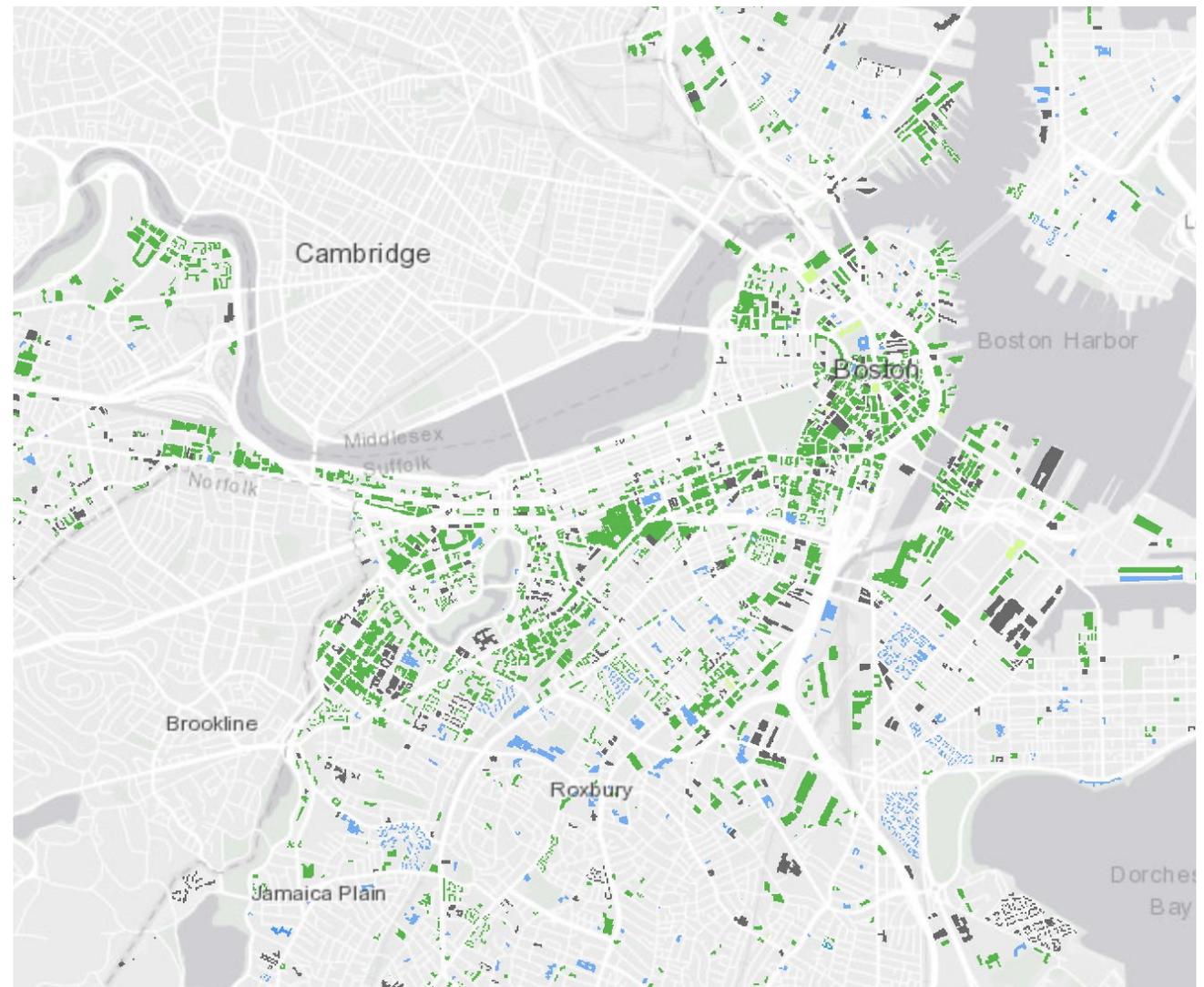


WHICH BUILDINGS ARE COVERED BY THIS POLICY?



Large existing buildings

- **NOT:** small multifamily, new construction
- **Current policy:** 35,000+ square feet or 35+ units
 - *Should we lower the threshold to 20,000 square feet?*



HOW IS THIS DIFFERENT FROM EXISTING POLICY?

Moving from an energy action and assessment requirement to a carbon performance standard



A)
Maintain

BERDO Annual Reporting Requirement

Energy Action & Assessment Requirement

- Staggered timelines
- 2014 base year
- Many pathways: 15% reduction, energy audit, REC purchase, or high performance certification

B)
Update

Building Emissions Performance Standard

- Carbon targets by building type that decrease over time
- Equity focus
- Rules for off-site renewable purchases and offsets



LIVING AND WORKING IN HEALTHIER BUILDINGS

Cutting carbon pollution in large buildings can improve indoor air quality and improve comfort.



LOWER ENERGY USE AND UTILITY BILLS

Energy efficiency measures help reduce energy use.



CONSTRUCTION AND ENERGY JOB OPPORTUNITIES

The work to make our buildings healthier and efficient will create new, green job opportunities.



B

POLICY DEVELOPMENT PROCESS

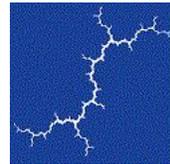
Mayor Martin J. Walsh

POLICY DEVELOPMENT PROCESS



CITY of BOSTON

Project team



Synapse
Energy Economics, Inc.



Technical Advisory Group

Carbon targets
Building pathways
Cost analysis

Resident Advisory Group

Policy principles
Maximize opportunities
Health outcomes

Advise
&
Inform

Building Owners

Commercial Tenants

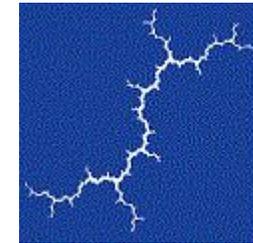
Labor

etc.

We are here

Community Stakeholder Group

- **The City has convened a Technical Advisory Group (TAG) of Boston area experts. The TAG includes experts in building science, architecture, engineering, construction, operations, energy policy, renewable energy, and sustainability.**
- **The TAG is tasked with providing expertise on:**
 - *Strategies to decarbonize large buildings*
 - *Costs to decarbonize buildings*
 - *Emissions performance targets that decrease over time*
- **The TAG has met 3 times, its next meeting takes place on July 30th.**



Synapse
Energy Economics, Inc.

RESIDENT ADVISORY GROUP

Incorporating lived knowledge and centering impacted communities



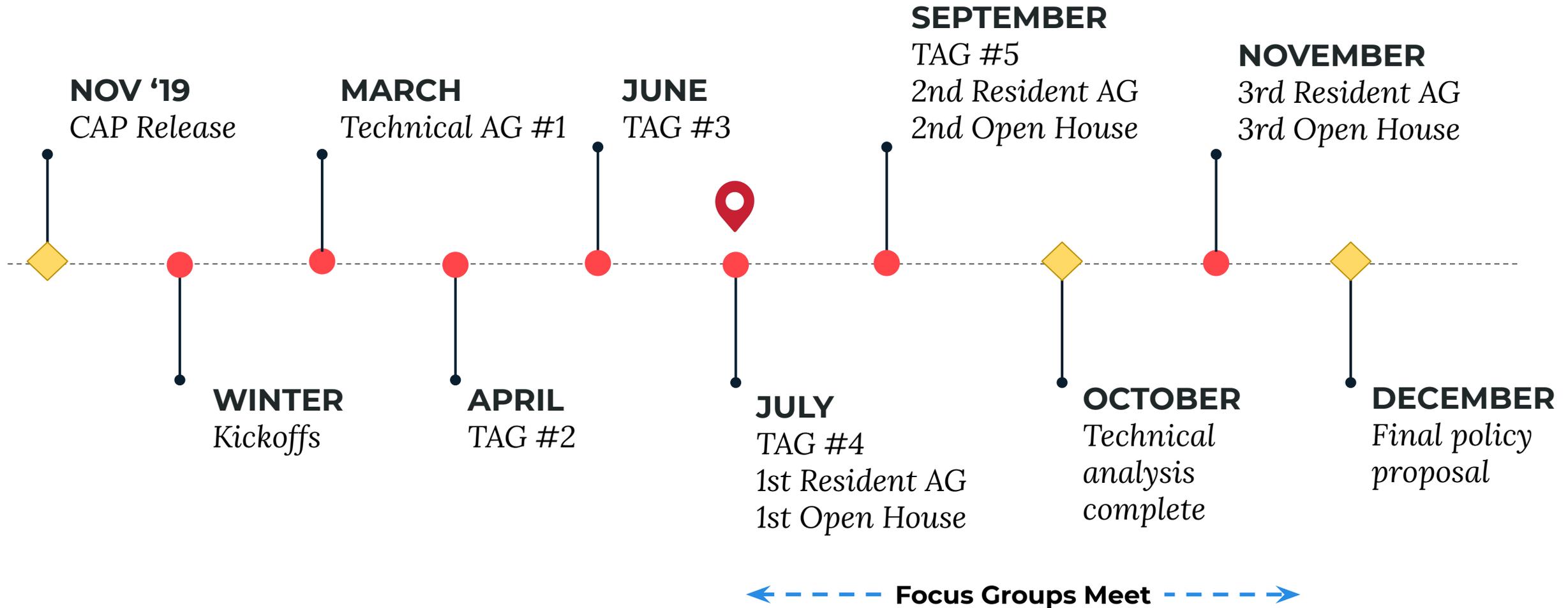
Goal: Develop a building emissions standard that minimizes harm and maximizes benefits and opportunities for Boston's frontline populations most affected by the proposed policy

Approach:

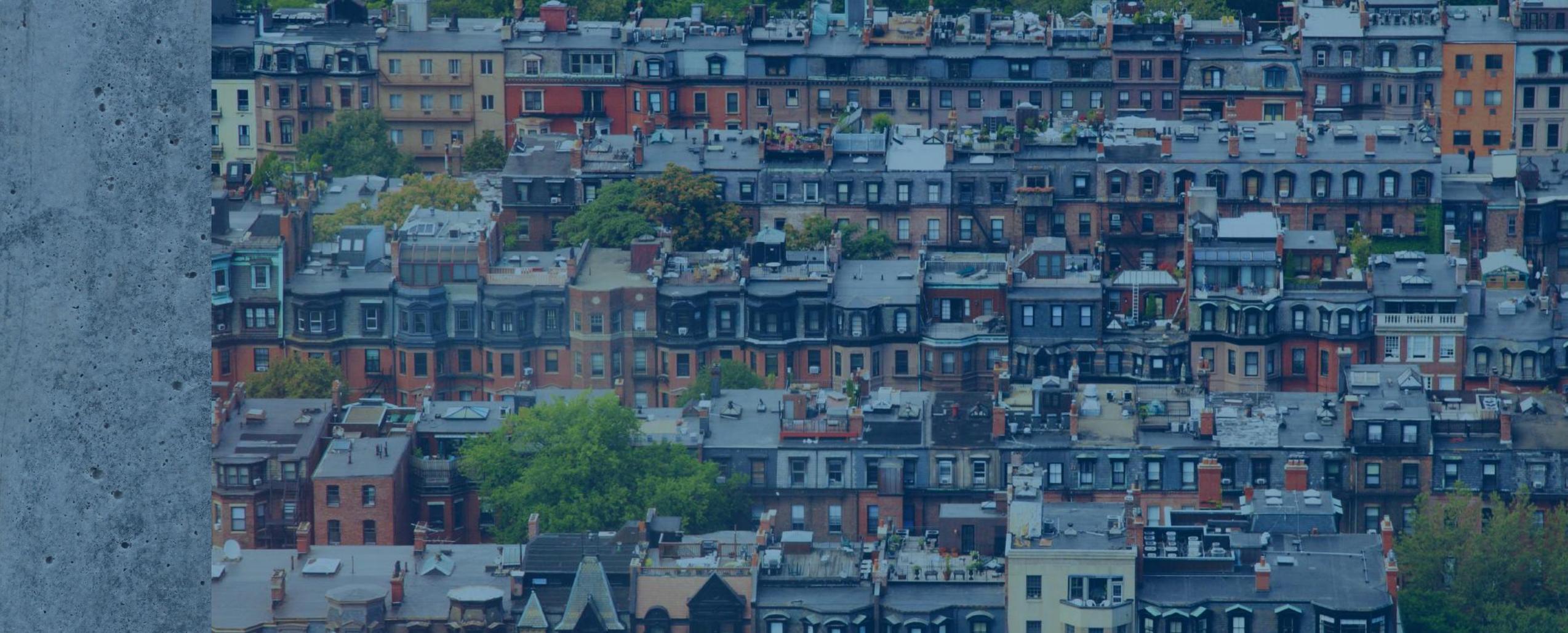
- *Receive community expertise and feedback*
- *Raise awareness of potential impacts and opportunities*
- *Collaborate with and center communities that will be impacted by the policy*

The first resident advisory group meeting was held on July 27th.

PROJECT TIMELINE



- **Should more buildings be covered by the standard?**
- **How can this process result in healthier housing?**
- **How can the standard create new job opportunities for residents?**
- **How can we help ensure residents and businesses can share in the benefits of green and healthy buildings?**
- **How do we treat renewable energy purchases and offsets?**
- **What complementary policies and programs should we consider?**



QUESTIONS & ANSWERS

Do you have any clarifying questions about the process?



B

BREAKOUTS

Guidance

WHAT TO EXPECT IN YOUR BREAKOUT

Zoom Guidance



- Small group discussions using the “Zoom Room” function.
- During the breakout, you can turn on your microphone and share your video.
- Please click on the three dots at the top right of your video/name screen to include your full name, pronouns and organization if applicable.
- If you have a question or comment but don’t feel comfortable jumping in, you can “raise your hand” or press *9 if you’re calling in.

WHAT TO EXPECT IN YOUR BREAKOUT

Discussion guidance



- We have prepared a list of questions to get the conversation started.
- A staff member will take notes to record your questions and comments and help facilitate the conversation.
- These questions will help design our next meeting.
- Ways of being:
 - *Speak from the “I”*
 - *Take space, make space*
 - *Actively listen*
 - *Own your intentions and impacts*

- **What are your initial questions about this strategy?**
- **What concerns do you have?**
- **What opportunities do you see?**
- **How do you think this policy could affect you and your community?**
- **What would you like to learn about in future meetings?**

REPORT OUT



- The next Open House will take place in September (date to be confirmed).
- The questions and comments you shared today will shape its agenda and structure.
- To share additional feedback, please respond to our survey (link shared in the chat and to be emailed after the end of the meeting).
- We will continue to update our website with up-to-date information.

**Thursday, July 30
7:00pm-8:00pm**

**FRANKLIN PARK
ECOLOGY SMALL
GROUP
DISCUSSION**

Online registration

**Saturday, August 1
9:00am-2:00pm**

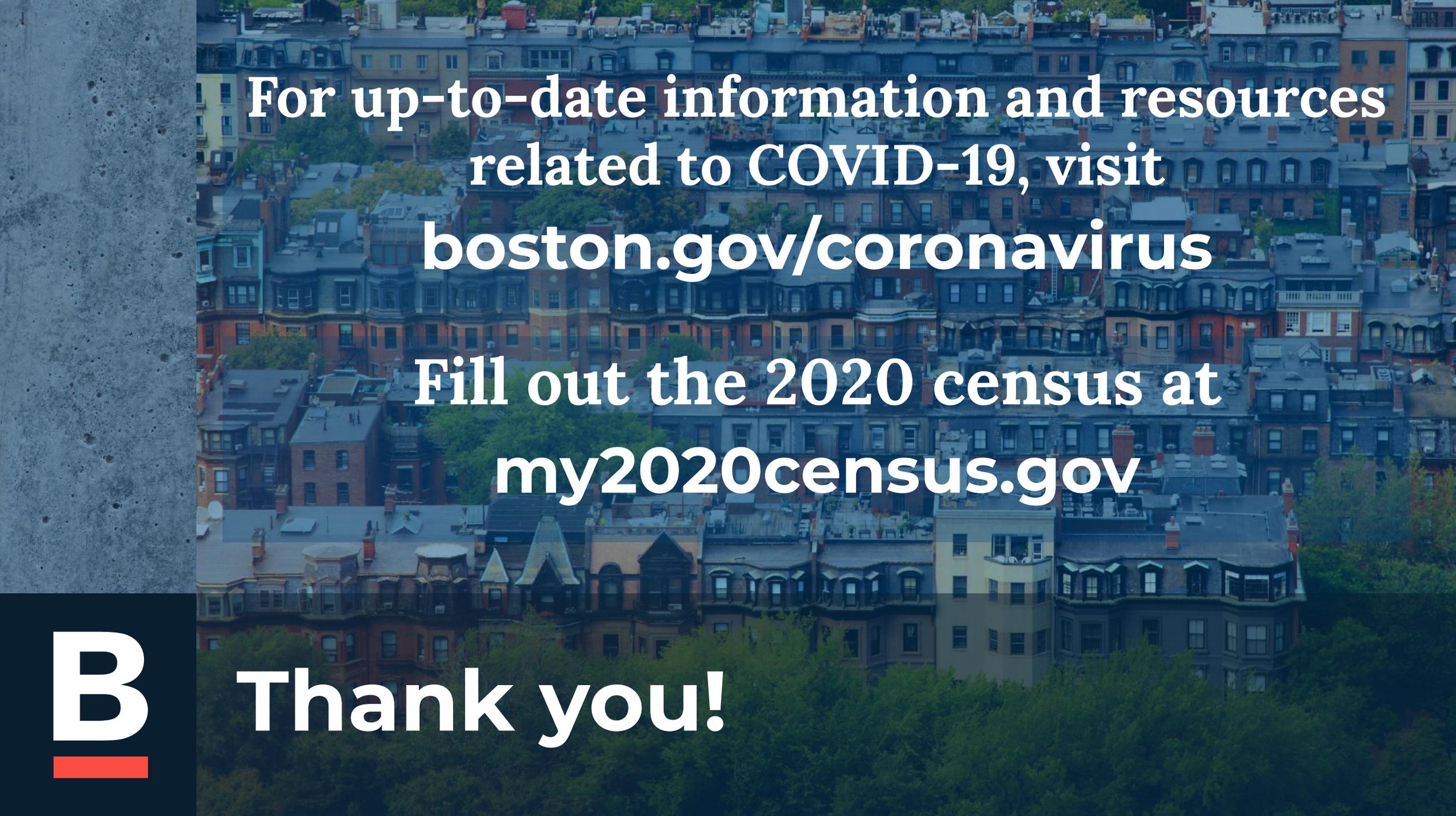
**HOUSEHOLD
HAZARDOUS
WASTE DROP OFF**

**John W. McCormack
Middle School,
Dorchester**

**Tuesday, August 4
6:00pm-7:00pm**

**CONFRONTING
COLONIAL MYTHS
IN BOSTON (PART
3)**

Online Registration



For up-to-date information and resources
related to COVID-19, visit
boston.gov/coronavirus

Fill out the 2020 census at
my2020census.gov



Thank you!